What is claimed is:

Sub B1

1. A method of forming a self-aligned contact hole suitable for a semiconductor substrate having a pair of gate electrodes, comprising the steps of:

forming a nitride etching stop layer over the gate electrode and the semiconductor substrate;

forming an oxide insulating layer on the nitride etching stop layer; and

plasma-etching the oxide insulating layer by an etching gas containing C_5F_8 and CHF_3 so as to form a self-aligned contact hole between the pair of gate electrode.

2. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the oxide insulating layer is BPSG.

3. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the oxide insulating layer is silicon oxide formed by a reactive gas containing TEOS.

4. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the nitride etching stop layer is silicon nitride.

5. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the nitride etching stop layer is silicon oxy-nitride.

6. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the etching gas further comprises an inert gas.

7. A method of forming a self-aligned contact hole as

claimed in Claim 6, wherein the inert gas is argon gas.

8. A method of forming a self-aligned contact hole as claimed in Claim 1, wherein the C_5F_8/CHF_3 mixture ratio of the etching gas is between 0.4 and 0.75.

9. A method of forming a self-aligned contact hole suitable for a semiconductor substrate having a pair of gate electrodes, comprising the steps of:

forming a nitride etching stop layer over the gate electrodes and the semiconductor substrate;

forming a oxide insulating layer on the nitride etching stop layer; and

plasma-etching the oxide insulating layer by an etching gas containing C_4F_6 and CHF_3 so as to form a self-aligned contact hole between the pair of gate electrode..

10. A method of forming a self-aligned contact hole as claimed in Claim 9, wherein the oxide insulating layer is BPSG.

11. A method of forming a self-aligned contact hole as claimed in Claim 9, wherein the oxide insulating layer is silicon oxide formed by a reactive gas containing TEOS.

12. A method of forming a self-aligned contact hole as claimed in Claim 9, wherein the nitride etching stop layer is silicon nitride.

13. A method of forming a self-aligned contact hole as claimed in Claim 9, wherein the nitride etching stop layer is silicon oxy-nitride.

14. A method of forming a self-aligned contact hole as

claimed in Claim 9, wherein the etching gas further comprises an inert gas.

15. A method of forming a self-aligned contact hole as claimed in Claim 13, wherein the inert gas is argon gas.

Cont Sub B1

Add A11